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CENTRAL INTELLIGENCE AGENCY

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COUNTRY USSR

REPORT

SUBJECT Test Results on Soviet Electric Light
Bulbs

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SOURCE EVALUATIONS ARE DEFINITIVE. APPRAISAL OF CONTENT IS TENTATIVE.

A report containing the results of tests run on five electric light
bulbs and two fluorescent tubes, which were purchased in the Soviet Union.

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Economic/ScientificManufacture of Electric Lamps in RUSSIA: Test Results.

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[redacted] at a GUM Store in MOSCOW [redacted] purchased some electric lamps which have subsequently been tested [redacted] with the results given hereunder.

2. Four of the lamps, marked on test A, B, C and D were nominally of 82 watts rating; one, marked E, was rated at 150 watts and two marked F and G were nominally 15 watt fluorescent tubes. Lamp "A" has been made available for further study.

3. Filament Lamps A.B.C.D and E.a) Lamp "A" 220V, 82W, Clear Coiled Coil

Mounting Very bad, coil pitch uneven due apparently to stretch on mounting. Coil is out of one loop and this defect was present when lamp was purchased. Loops appear hand-made and badly inserted. Nickel lead wire badly bent and distorted.

Capping Wire exposed in top contact. The side wire has been arc-welded but is now disconnected. As in the other lamp of this type the copper lead to the centre contact appears smaller in diameter than that to the side.

b) Lamp "B" 220V 82W, Pearl Coiled Coil

Sealing-in Bad shape top - appears to be blown out.

Capping Soldering had been used instead of arc-welding for the side contact, but the finished job is poor in appearance. Cap appears to be zinc-coated steel.

c) Lamp "C" 220V, 82W, Clear Coiled Coil

Mounting Very bad. Coil pitch very uneven due apparently to /stretch.....

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stretch. Supports pendent but the advantage of the construction completely wasted by too narrow lead spacing and insufficient angle of support. Clamps badly made. Crooked. Top soldering poor. Wire exposed. Cap appears to be zinc coated steel. Cement appears underbaked and has run into the well. The side wire is arc-welded. No evidence of fusing although the copper lead to the centre contact is smaller in diameter than the other. (Accidentally broken).

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d) Lamp "D" 220V. 82W. 900 lms. Pearl Coiled Coil

Sealing-in Bad shaped top, blown out.

Capping Soldering has been used for side contact - appearance is fair. Cap appears to be zinc-coated steel.

e) Lamp "E" 220V. 150W. Internal White Finish Single Coil

Sealing-in Slightly blown top.

Capping Soldering used and the appearance is satisfactory. The cap seems to be zinc-coated steel.

f) INITIAL PHOTOMETRIC READINGS and PHYSICAL DIMENSIONS

	A	B	C	D	E
VOLTS	220	220	220	220	220
AMPS	0.359	0.366	0.395	0.356	0.637
WATTS (actual)	79.0	80.5	86.9	75.3	140.1
WATTS (nominal)	82	82	82	82	150
LUMENS (actual)	859	869	970	768	1486
B.S.I. nominal lumens	1040	1040	1040	1040	2090
Lm/WATT	10.88	10.79	11.16	9.81	10.60
Overall length	121	128.5	121	127	172
Light-centre length	90	95	90	94	Internal White

4. Fluorescent Tubes F and G

a) Coating: very poor, thin and non-uniform.

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b) Colour: similar to "daylight" standard.

/(o) Physical dimensions.....

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- o) Physical dimensions: i) Overall length of both F and G just
complies with [] specification. 25X1
- ii) Orientation of cap pins: F 5° error
G 15° error
([] specifies 6° maximum error). 25X1
- d) General: The cap soldering poor, solder too far up pins. The
gas filling of both tubes is contaminated, one so badly
that it fails to run properly.

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5. An expert in [] lamp manufacture has commented "The general quality
is so bad that one wonders whether they are really representative of Russian
manufacture, yet the manner of their purchase suggests that they must be. It
is interesting to note that coiled-coil filaments are used, implying a good
quality tungsten and competent metallurgy and wire-drawing techniques, quite
out of keeping with the quality of the finished product."

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